

BASF Aktiengesellschaft

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We claim:-

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1. A process for the catalytic conversion of fuel for removing oxides of nitrogen from exhaust gases of internal combustion engines, in which fuel and a part-stream of the exhaust gas or of the intake air are converted in a converter, wherein the fuel and the part-stream of the exhaust gas or of the intake air are fed separately from one another into the converter and the fuel is vaporized in the converter.
 2. A process as claimed in claim 1, wherein the fuel is dehydrogenated or partially oxidized.
 3. A process as claimed in claim 1, wherein the fuel is at least partially oxidized to carboxylic acids and/or carboxylic anhydrides.
 4. A process for removing oxides of nitrogen from exhaust gases of internal combustion engines, wherein first a process as claimed in claim 1 is carried out, and the product stream from the converter is combined with the exhaust gas of the internal combustion engine and is reacted over a catalyst for the degradation of the oxides of nitrogen.
 5. A process as claimed in claim 4, wherein the reaction for the degradation of the oxides of nitrogen is carried out over a catalyst whose active material contains no Cr, Mn, Fe, Co, Ni, Ru, Rh, Pd, Ir, Pt or Cu.

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6. A process as claimed in claim 5, wherein the catalyst for the degradation of the oxides of nitrogen contains at least one oxide of a metal of the first to fourth main group of the Periodic Table of the Elements.
7. A process as claimed in claim 6, wherein the catalyst for the degradation of the oxides of nitrogen contains $\gamma\text{-Al}_2\text{O}_3$.
8. A process as claimed in claim 4, wherein the product stream obtained after the reaction over the catalyst for the degradation of the oxides of nitrogen is further reacted over a noble metal-containing catalyst for the oxidation of the remaining organic compounds.
9. A converter for the catalytic conversion of fuel, comprising a vaporization space and a conversion space connected thereto, the vaporization space having separate feeds for exhaust gas or intake air and fuel, the conversion space having a catalyst for the catalytic conversion of fuel and the vaporization space and the conversion space being connected to one another so that heat transport from the conversion space into the vaporization space is possible.

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